

Description of adults of *Octospiniferoides incognita* SCHMIDT & HUGGHINS, 1973, (Acanthocephala: Neoechinorhynchidae) from a fish of Rondônia State, Brazil

by

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Abstract

Adults of *Octospiniferoides incognita* SCHMIDT & HUGGHINS, 1973, (Acanthocephala: Neoechinorhynchidae) are described for the first time. The host fish, *Schizodon fasciatum* AGASSIZ, was taken from the Guaporé River of Rondônia State, Brazil. Three male specimens were 3.7 - 4.9 mm long and six females were 4.2 - 10.7 mm long. Large proboscis hooks in the anterior circle were 78 - 88 micrometers; medium hooks were 44 - 66 μ m and the small posterior ones were 37 - 44 μ m.

Keywords: Fish parasites, acanthocephalans, Rondônia, Amazonia, Brazil.

Resumo

Adultos de *Octospiniferoides incognita* SCHMIDT & HUGGHINS, 1973, são descritos pela primeira vez. O peixe hospedeiro, *Schizodon fasciatum* AGASSIZ, foi capturado no Rio Guaporé do estado de Rondônia, Brasil. Três machos eram 3.7 - 4.9 mm de comprimento e seis fêmeas mediam 4.2 - 10.7 mm de comprimento. Os ganchos maiores do círculo anterior eram 78 - 88 micrometros; ganchos medianos eram 44 - 66 μ m e os pequenos ganchos da fileira posterior eram 37 - 44 μ m.

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Acanthocephalans are common endoparasites of fish and according to THATCHER (1991), there are 32 species in 14 genera known from Neotropical fishes. Immature specimens of one of these, *Octospiniferoides incognita*, were described by SCHMIDT & HUGGHINS (1973) from a Bolivian fish, *Schizodon fasciatum* AGASSIZ. The species is herein redescribed from adult male and female specimens taken from the same species of host fish.

Material and methods

Fish hosts were netted, identified and eviscerated in the Brazilian State of Rondônia. The intestines were removed, fixed in 10 % formalin solution and later transferred to 70 % ethanol. The preserved intestines were brought back to the laboratory in Manaus where they were opened, washed and the worms concentrated by hand sedimentation. The acanthocephalans, after being pierced by a fine needle, were stained in 95 % ethanol containing equal amounts of orange-g and eosin stains. They were then dehydrated in pure phenol, cleared in methyl salicylate and mounted in Canada balsam. Drawings were made with a Zeiss drawing tube. Measurements are in micrometers (μm) unless indicated as millimeters (mm) and the extremes are followed by the means in parentheses.

Systematic Results

Acanthocephala

Neoechinorhynchidae

Octospiniferoides BULLOCK, 1957

Octospiniferoides incognita SCHMIDT & HUGGHINS, 1973

(Figs. 1 - 5)

Host: *Schizodon fasciatum* AGASSIZ (Anostomidae).

Site: Lower intestinal tract.

Locality: Guaporé River, Rondônia State, Brazil.

Voucher specimens: 3 males and 6 females deposited in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, Amazonas, Brazil; accession numbers: INPA 013a-i.

Species description (modified after SCHMIDT & HUGGHINS, 1973): Proboscis bluntly rounded, with three irregular circles of 10 hooks each (Fig. 1) all with slender roots. Armature (Fig. 1) similar in both sexes: hooks of anterior circle 77 - 88 (81) in length; middle circle 44 - 66 (56) and small hooks of posterior circle measure 37 - 44 (43) long (Fig. 3). Apical organ shorter than proboscis. Trunk unarmed, nearly cylindrical, widest in pre-equatorial region. Lemnisci flattened, longer than proboscis receptacle. Proboscis receptacle single-walled, brain near posterior end. Five dorsal and one ventral giant nuclei in body wall.

Male (Fig. 2): Trunk 3.7 - 4.9 (4.6) mm long by 749 - 874 wide. Proboscis 304 long by 261 wide. Proboscis receptacle 300 long and 260 wide. Lemnisci 305 long by 157 wide. Testes spherical contiguous, pre-equatorial; anterior testis 548 long by 522 wide; posterior testis 522 long by 531 wide. Cement gland just behind posterior testis, with seven or eight nuclei. Saeftigen's pouch 609 - 783 (711) long by 183 - 226 (200) wide.

Female (Figs. 4 & 5): Trunk 4.2 - 10.7 (6.5) long and 769 - 1,289 (1,000) wide. Proboscis 200 - 313 (273) long by 226 - 270 (252) wide. Proboscis receptacle 391 - 522 (482) long by 208 - 261 (245) wide. Lemnisci 391 - 539 (455) long by 104 - 131 (113) wide. Ovarian balls measure from 22 to 44 in diameter. The vagina and uterus are about 9 % of trunk length. Eggs measure 22 x 7.

Discussion

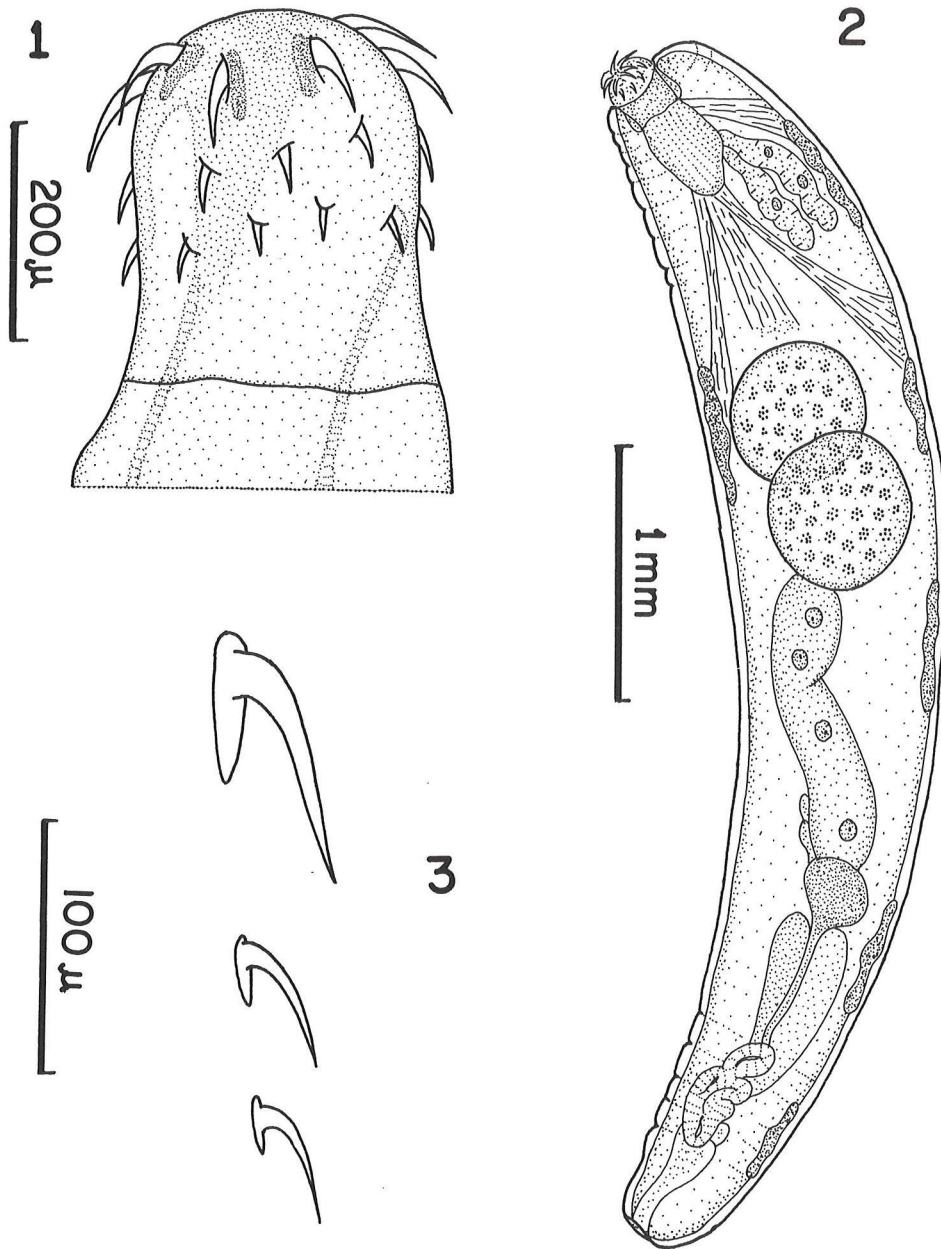
The measurements for adult structures of *O. incognita*, presented in this paper, were markedly greater than those of immatures (SCHMIDT & HUGGHINS, 1973) except for proboscis hook sizes which were very similar.

The genus *Octospiniferoides* (and the species *O. chandleri*) were described by BULLOCK (1957) from Texas. He distinguished this genus from *Octospinifer* VAN CLEAVE, 1919, by the fact that the posterior circle of hooks have roots whereas in the latter they are lacking. *O. chandleri* and *O. australis*, which are the only other species in the genus, have 8 hooks in each circle. According to SCHMIDT & HUGGHINS (1973), *Octospiniferoides incognita* has much larger hooks than the other species in these genera and also has 10 hooks per circle.

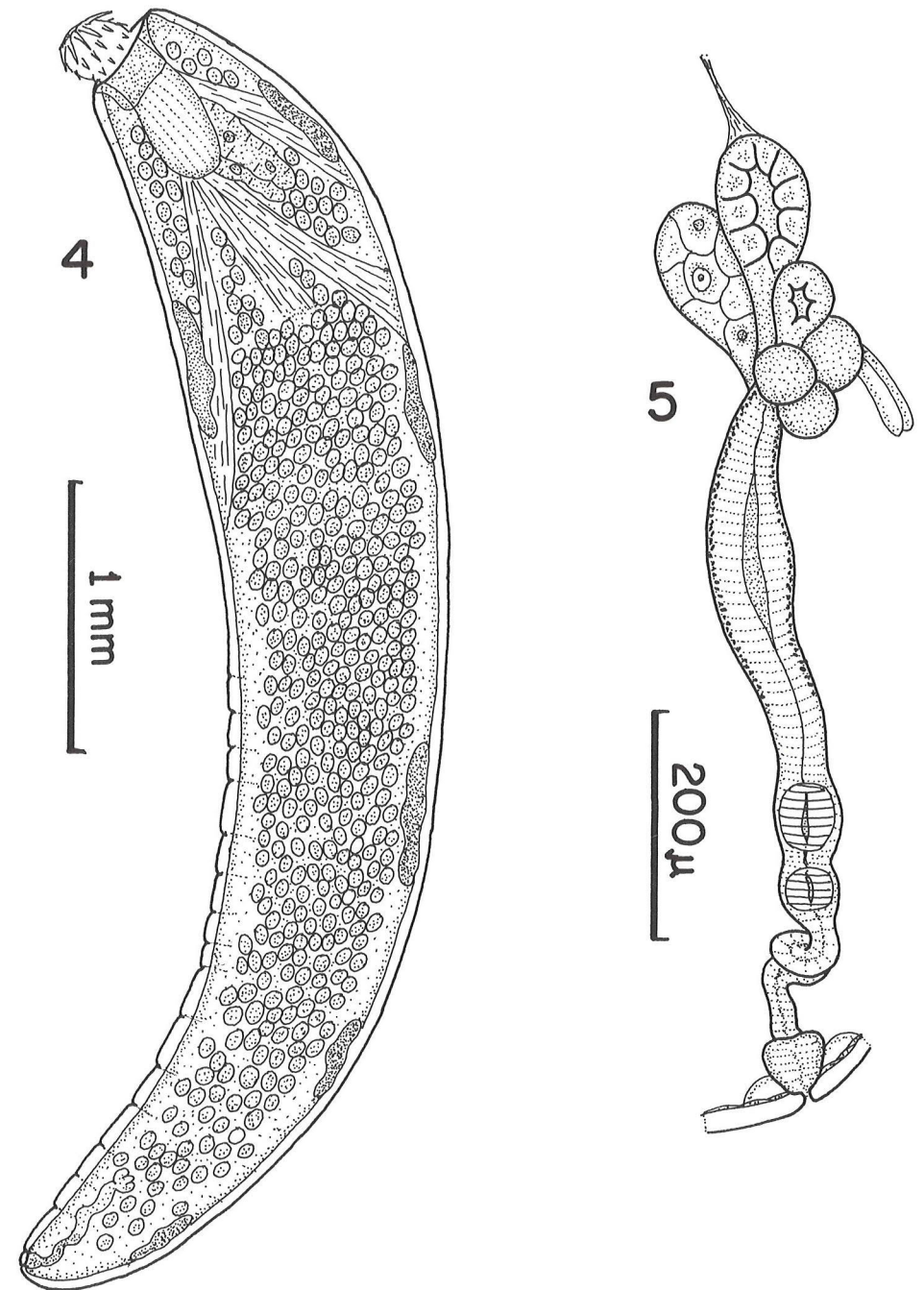
The present paper is the first report of this species in Brazil. It is not surprising to find it in Rondônia, however, since that state lies next to Bolivia. Many of the rivers that pass through Rondônia originate in Bolivia and therefore have the same species of fish.

References

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- SCHMIDT, G.D. & E.J. HUGGHINS (1973): Acanthocephala of South American fishes. Part 1, Eoacanthocephala. - J. Parasit. 59: 829-835.
- THATCHER, V.E. (1991): Amazon Fish Parasites. - Amazoniana 11(3/4): 263-571.



Figs. 1-3:
Octospiniferoides incognita SCHMIDT & HUGGHINS, 1973: male; 1: proboscis; 2: entire worm (lateral view); 3: hooks of first, second and third rows.



Figs. 4-5:
Octospiniferoides incognita SCHMIDT & HUGGHINS, 1973: female; 4: entire worm (lateral view); 5: female reproductive system.